

20 April 2021

Attention: Caroline Evans

Project Manager

Coastal and Environmental Services

GRAHAMSTOWN WIND ENERGY FACILITY, EASTERN CAPE: ECOLOGICAL SPECIALIST OPINION

Dear Caroline

An amendment in the layout and turbine technology and associated infrastructure associated with the Grahamstown Wind Energy Facility refers. The proposed amendments are listed below.

- ▲ Amendment of the Facility Output (from 66 MW to 76 MW),
- ▲ Amendment of the Number of Turbines (from 22 to 14 turbines),
- ▲ Amendment of the Turbine Hub Height (from 91.5 m to up to 125 m),
- ▲ Amendment of the Turbine Rotor Diameter (from 100 – 117 m to up to 163 m),
- ▲ Amendment of the Hardstand Areas (from a total of 5.2 ha to 7.0 ha),
- ▲ Amendment of the Roads (from 16.35 km in length to 12 km),
- ▲ Amendment of the Development Footprint (from 13.7 ha to 11.9 ha), and
- ▲ Amendment of the Substation Footprint (to 1.2 ha).

The proposed amendments have been assessed in order to determine whether any additional impacts are relevant to the proposed amendment and whether new, recently published information relevant to the site changes the sensitivity.

Since the initiation of the Grahamstown Wind Energy Facility EIA in 2012, a number of publications have replaced the ones used in original Ecological Impact Assessment report, namely: The Vegetation Map of South Africa (Mucina *et al.*, 2006-2018) and the Eastern Cape Biodiversity Conservation Management Plan (2019).

Vegetation Map 2018

Minor changes to the vegetation of the project area with respect to adjustment of vegetation boundaries and vegetation names. The reason for the change is the integration of the STEP vegetation map into the National vegetation map. The following changes are reflected and the new vegetation map is reflected in Figure 1 below.

2012 Ecological Impact Assessment	2021 Ecological Opinion
The project area was predominantly placed in Bhishe Thornveld (with 2 turbines in Kowie Thicket)	The majority of the project is currently placed in Bhishe Thorveld (with 1 turbine in Grahamstown Grassland Thicket).

All vegetation types, previous and current, are **Least Concern**.

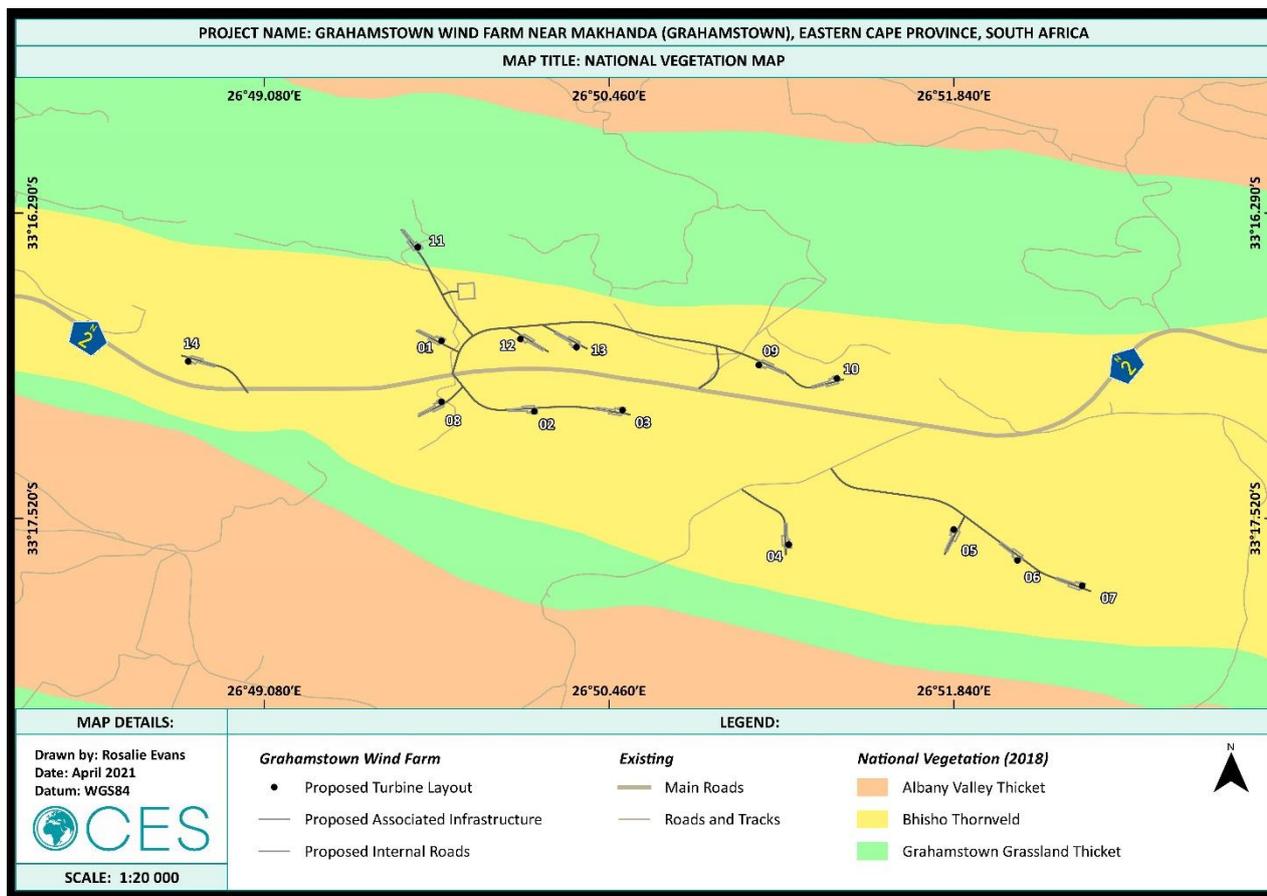


Figure 1 South African Vegetation Map (Mucina et al., 2018)

Eastern Cape Biodiversity Conservation Plan (2007 vs 2019)

While ECBCP2019 has less area mapped as Terrestrial CBA 2 in the project area, the 2007 and 2019 versions are fairly consistent with respect to where the turbines and associated infrastructure are proposed (See table below). There are minor adjustments in the boundary of CBA 2 in the ECBCP 2019, and this is mainly due to the different unit of area created for the ECBCP2019 and not differences in biodiversity information (Figure 2). The ECBCP 2019 Aquatic CBA layer shows that two turbines are located upstream from a CBA 2 river. Land use guidelines associated with both Terrestrial and Aquatic CBA 2 areas therefore apply.

2012 Ecological Impact Assessment	2021 Ecological Opinion
Majority of the turbines were placed in CBA 2 areas.	Majority of turbines still in a CBA 2 area. The land use recommendation for wind energy development within CBA 2 areas is “Not appropriate” and should be motivate by a specialist assessment. Two turbines are located in the upper catchment which drains into a CBA 2 river.

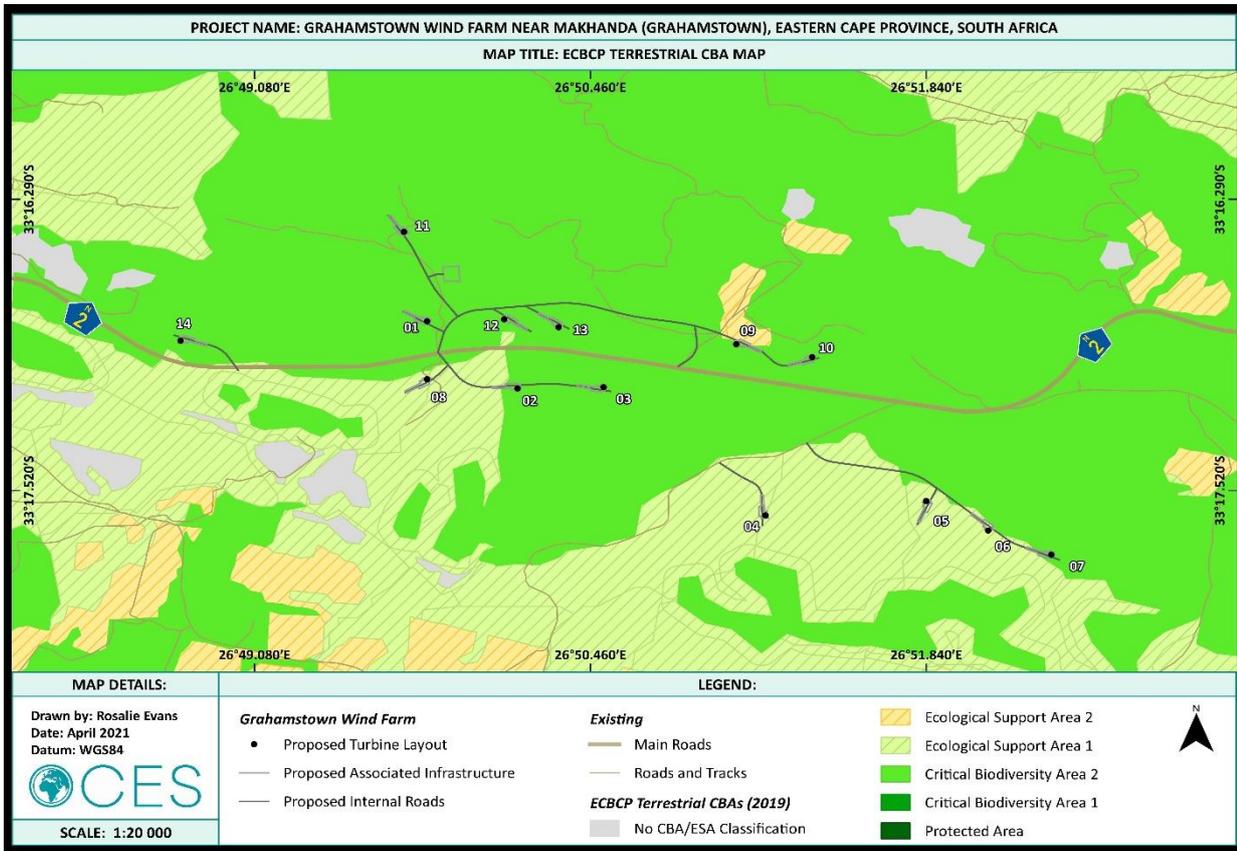


Figure 2 ECBCP 2019 Terrestrial CBA map

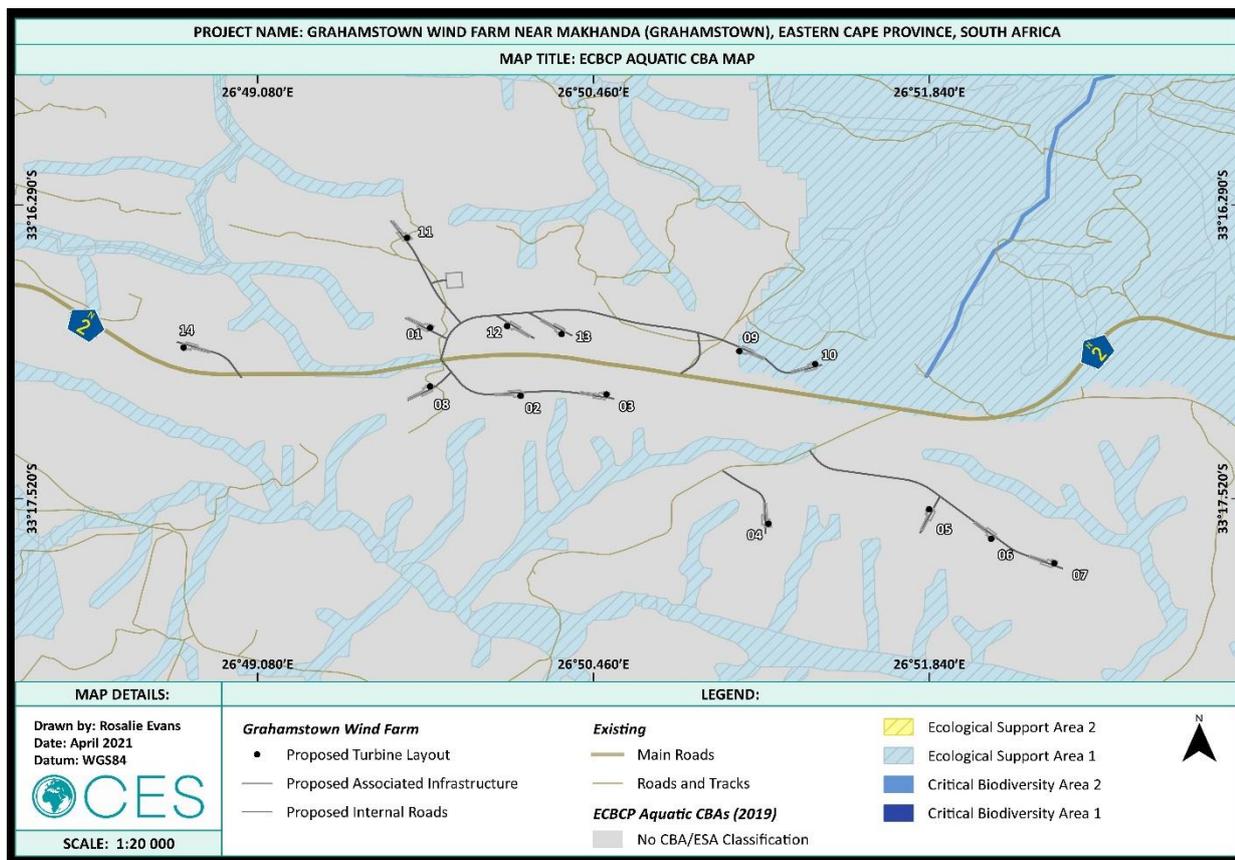
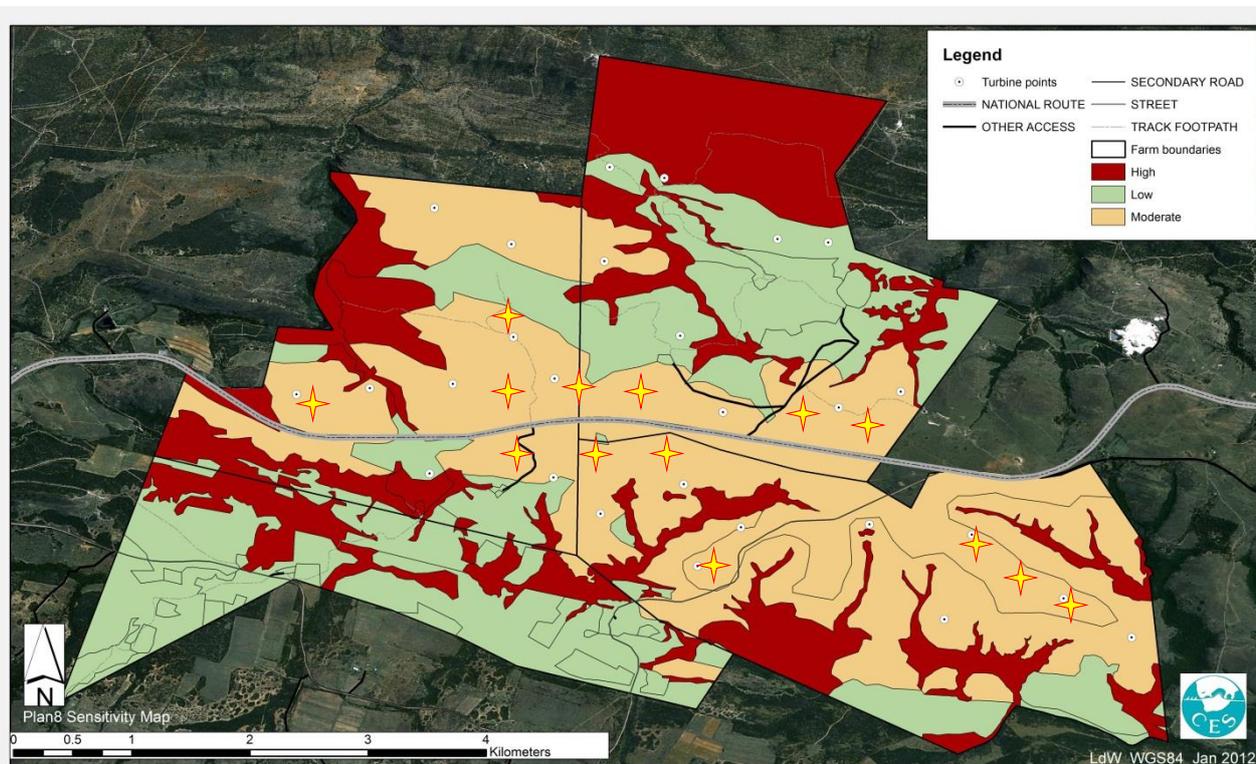


Figure 3 ECBCP 2019 Aquatic CBA map

Sensitivity:

The original sensitivity map, based on mapped plant communities is still relevant. This opinion letter uses the 2012 sensitivity map and indicates the approximate amended turbine locations (Figure 4, yellow stars). The following observations were made when comparing the new layout in terms of the defined sensitive areas map (Figure 4):

- The new layout constitutes a better outcome in terms of overall impact due a reduced physical footprint from 13.7ha down to 11.9ha.
- None of the new proposed turbine localities fall within the sensitive areas or associated buffers.
- The amended layout and number of turbines reduces the need for connecting roads and therefore reduces the requirement for, and footprint of, road construction.



Ecological specialist comments:

The following specification changes do not have an impact in terms of the terrestrial or aquatic ecology:

- ▲ Amendment of the Facility Output (from 66 MW to 76 MW),
- ▲ Amendment of the Turbine Hub Height (from 91.5 m to up to 125 m),
- ▲ Amendment of the Turbine Rotor Diameter (from 100 – 117 m to up to 163 m),

The above amendments will have an impact on the economics of surrounding conservation areas as well and ecological impacts associated with birds and bats. These impacts, however, are addressed in the relevant specialist reports that assess these impacts in detail.

The following comments are made to changes in specification as are relevant to the Ecological Impact Assessment:

Table 1. Comments on the proposed specification changes to the Grahamstown WEF

Proposed new specifications	Effect on impacts and mitigation measures	Effect on current EA conditions	Effect on cumulative impacts	Notes on land-use changes
Number of turbines:				
The number of turbines will decrease from 22	All mitigations identified in the original	All conditions listed in the EA	The proposed amendment will have no additional	There have been no changes in land use that affect the impact

Proposed new specifications	Effect on impacts and mitigation measures	Effect on current EA conditions	Effect on cumulative impacts	Notes on land-use changes
to 14. Some of the turbine positions have changed or been removed completely.	Ecological Report are still valid for this change. There are no additional mitigations proposed for this change.	are still valid for this change. There are no additional conditions proposed for this change.	cumulative impact on the ecological landscape and therefore no additional cumulative issues were identified.	assessment of the original or amended turbine layout.
Hardstand areas, Development footprint and Substation footprint:				
Hard stand areas will increase from 5.2ha to 6.51. Development footprint will decrease from 13.7ha to 9ha Addition footprint associated with the substation is 1.2ha. Total	All mitigations identified in the original Ecological Report are still valid for these changes. There are no additional mitigations proposed for this change.	All conditions listed in the EA are still valid for this change. There are no additional conditions proposed for this change.	The proposed amendment will have no additional cumulative impact on the ecological landscape and therefore no additional cumulative issues were identified. An overall reduction in footprint is approximately 2.2ha, which when considered over the project area is not a significant change.	There have been no changes in land use that affect the impact assessment of the original or amended turbine layout.
Road length:				
Road length is reduced from 16.35km down to 10.3km.	All mitigations identified in the original Ecological Report are still valid for this change. There are no additional	All conditions listed in the EA are still valid for this change. There are no additional conditions proposed for this change.	The cumulative impacts of ecosystem fragmentation is reduced by the number of turbines and a reduced road footprint.	There have been no changes in land use that affect the impact assessment of the original or amended turbine layout.

Proposed new specifications	Effect on impacts and mitigation measures	Effect on current EA conditions	Effect on cumulative impacts	Notes on land-use changes
	mitigations proposed for this change.			

Concluding remarks:

The proposed amendments to the Grahamstown Wind Energy Facility will have no additional impact (direct, indirect or cumulative) on the ecology and ecosystems. Rather, the amended layout it will achieve a better outcome in terms of a reduced turbine and road footprint. The recommendations and mitigation measures contained in the Ecological Impact Assessment (2012) are still applicable, remain valid, and should be included as conditions for approval, however additional considerations in terms of the ECBCP 2019 land and water use guidelines must be included in the amendment. The following additional measures applicable to terrestrial and aquatic CBA2 areas are relevant -

Terrestrial CBA2 areas:

- It is the opinion of this author that the vegetation mapping and sensitivity assessment conducted in 2012 outlines a much more detailed vegetation and community assessment which ensures that turbine placement avoids high-sensitive areas and threatened species, and the development is therefore acceptable.
- As far as practically possible, degraded areas and existing tracks should be used for development.
- A detailed ground-truthing exercise must be undertaken of all infrastructure, **in the appropriate flowering/growth season**, prior to construction.
- Stringent measures to contain construction to the demarcated footprint must be undertaken.

Aquatic CBA2 areas:

CBA rivers in the ECBCP 2019 have been identified as important systems required to meet National targets and protect known aquatic biodiversity. Although only 2 turbines fall within a catchment that drain into a CBA 2 river, the development is located along ridges that form the source of a number of drainage systems. Therefore, ***the entire development*** must be mindful of the impacts of vegetation clearing, soil erosion and pollution have on aquatic systems and prevention of impacts are important throughout the development, and **measures to prevent these impacts are of utmost importance.**

It is the opinion of the Ecological Specialist that overall, the **significance** of the impacts associated with 22 turbines, as assessed in the Ecological Impact Assessment (2014), has been reduced as a result of the amended 14 turbine layout.

No additional No-Go areas were identified as a result of this amendment.

This Letter of Opinion is not a standalone document and the conclusions made must be read in conjunction with the findings of the original Ecological Impact Assessment (2012).

Big Thorn Environmental CC
greer@btbio.co.za

Yours faithfully



Greer Hawley
Ecological Specialist

Ecological specialist details:

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5201

Dr Greer Hawley-McMaster has a BSc degree in Botany and Zoology, a BSc (Honours) in Botany from the University of Cape Town and a PhD (Microbiology) from Rhodes University. Greer has a diverse skill set including biodiversity surveys and assessments (plants, fungi and terrestrial ecosystems), developing environmental management policy (EMP's and EMF's), analysis and interpretation of environmental and biodiversity spatial datasets, training, feasibility assessments, environmental impact assessments for a wide range of land use activity proposals, aquaculture feasibility assessments, alien invasive management planning and conservation management planning. Greer has undertaken work in a number of African countries and has specifically surveyed many parts of the Eastern Cape. Greer has managed large projects and has experience with co-ordinating big specialist teams. Greer has recently completed the review of the Eastern Cape Biodiversity Conservation Plan (2019) and continues to develop the Eastern Cape Biodiversity strategy and Action Plan.

Declaration:

I, Greer Hawley, declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed development, application or appeal in respect of which I was appointed other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

File Reference Number:	(For official use only)
NEAS Reference Number:	DEA/EIA/
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

PROJECT TITLE

Grahamstown Wind Energy Facility, Makhanda, Eastern Cape

Kindly note the following:

1. This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
2. This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at <https://www.environment.gov.za/documents/forms>.
3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
5. All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

Departmental Details

Postal address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001

Physical address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Environment House
473 Steve Biko Road
Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:
Email: EIAAdmin@environment.gov.za

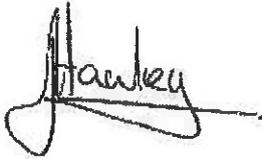
1. SPECIALIST INFORMATION

Specialist Company Name:	Big Thorn Environmental CC		
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	4	Percentage Procurement recognition
Specialist name:	Greer Hawley-McMaster		
Specialist Qualifications:	Hons (Botany), PhD (Microbiology)		
Professional affiliation/registration:	SACNASP 400321/14		
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Postal address:	-		
Postal code:	5201	Cell:	0827393419
Telephone:	0437374887	Fax:	-
E-mail:	greer@btbio.co.za		

2. DECLARATION BY THE SPECIALIST

I, Greer Hawley-McMaster, declare that –

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.



Signature of the Specialist

Big Thorn Environmental CC

Name of Company:

18 May 2021

Date

3. UNDERTAKING UNDER OATH/ AFFIRMATION

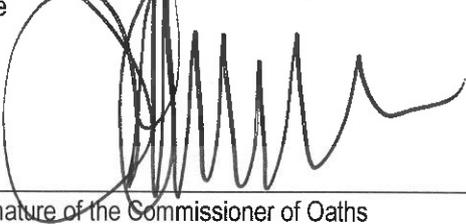
I, ___ Greer Hawley-McMaster ____, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.



Signature of the Specialist

Big Thorn Environmental CO
Name of Company

18 May 2021
Date



Signature of the Commissioner of Oaths

18.05.2021
Date

LYNN SMIT
COMMISSIONER OF OATHS
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